

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



FIG.1

Hybridization Detection via *Intensity* Measurement:





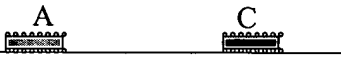


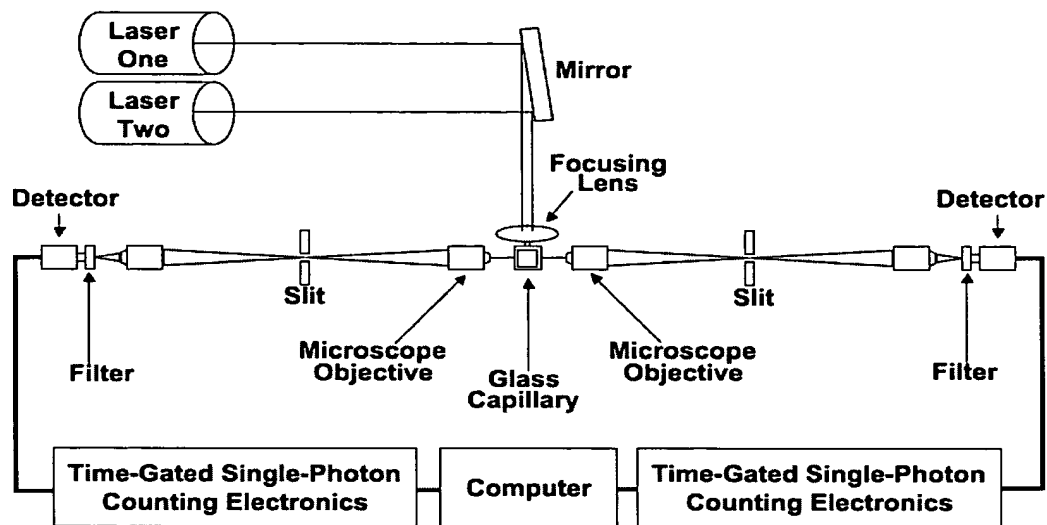
<u>Nucleic Acid Fragments</u>	<u>Fluorescence</u>
Probe A 	= 20 Intensity
Probe B 	= 60 Intensity
Probe C 	= 70 Intensity
Target 	= 80 Intensity
Target 	= 90 Intensity
Target 	= 150 Intensity
Target 	= 130 Intensity

FIG. 2

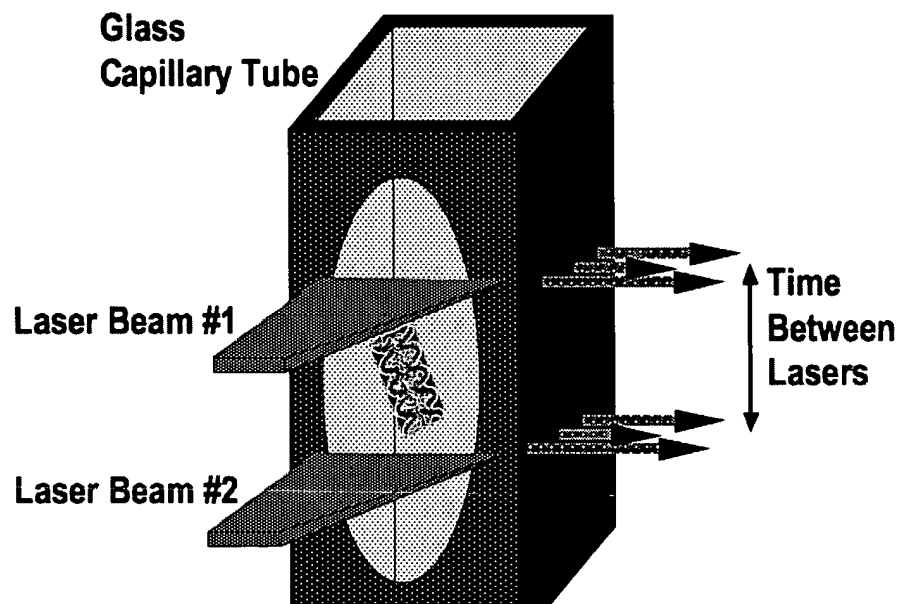
Single Molecule Detector



Schematic diagram of the basic apparatus for single molecule detection using laser induced fluorescence.

FIG. 3

Heart of the SMD Instrument

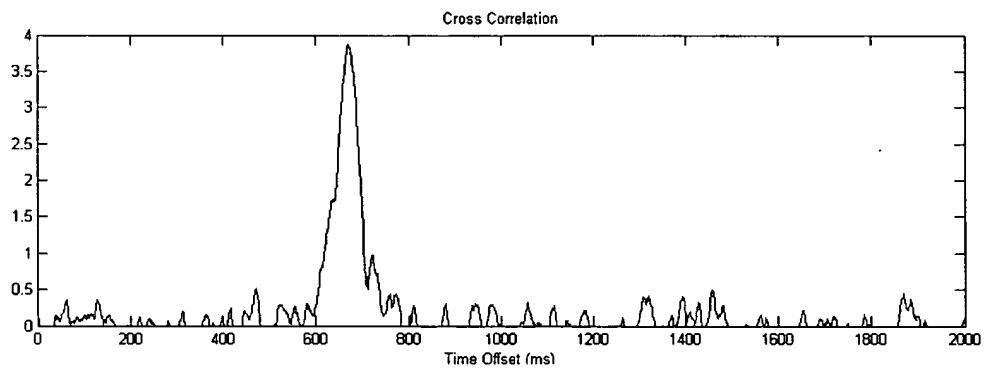


Glass capillary tube forms the heart of the system.

FIG. 4

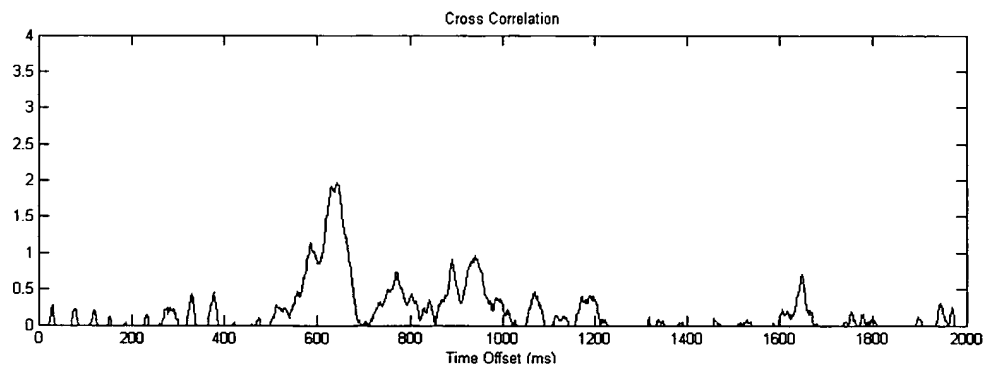
ANALYSIS OF HYBRIDIZED UNITIZED PROBE AND TARGET.

FIG. 4A



LABELLED PCR PRODUCT

FIG. 4B:



LABELLED PCR PRODUCT HYBRIDIZED WITH 100 FOLD EXCESS UNLABELLED PCR PRODUCT.

FIG. 5

INDIVIDUAL MOLECULE ANALYSIS – TIME COURSE OF PHOTON BURST INTENSITIES

FIG. 5A:

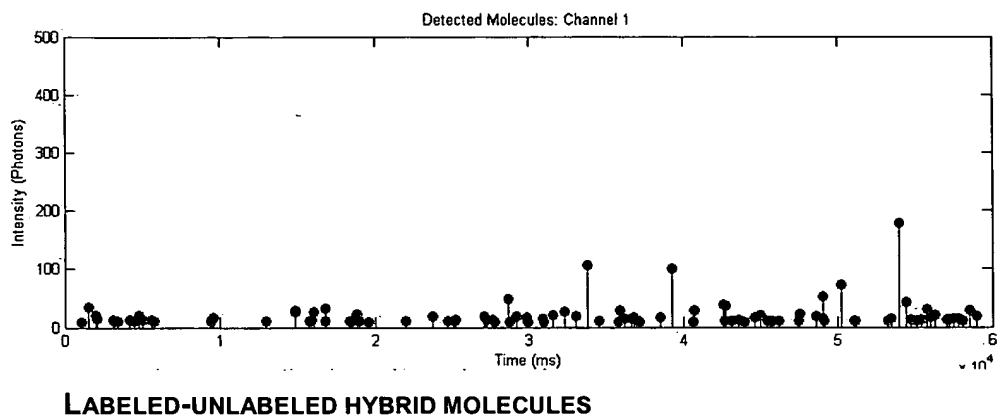


FIG. 5B:

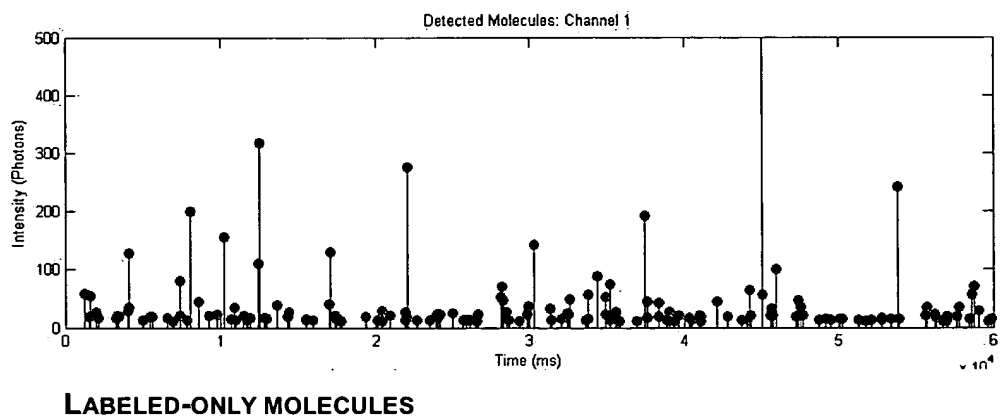
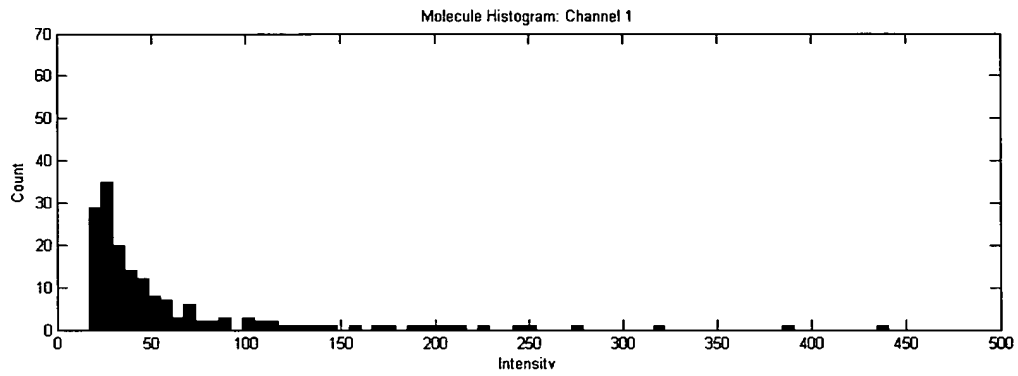


FIG. 6

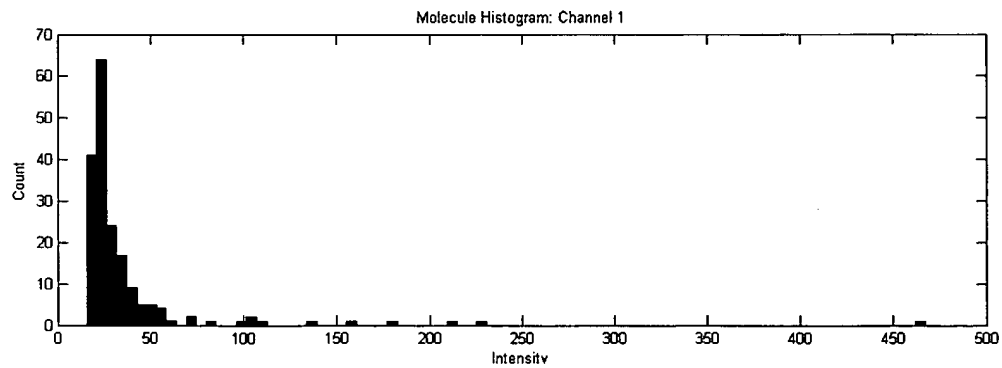
HISTOGRAM OF PHOTON INTENSITIES OF HYBRIDIZED UNITIZED PROBE

FIG. 6A



LABELLED PCR PRODUCT ONLY. 35% OF THE DETECTED MOLECULES HAD INTENSITIES OF GREATER THAN 50 PHOTONS.

FIG. 6B



LABELLED PCR PRODUCT PLUS 100 FOLD EXCESS UNLABELED PRODUCT. 10% OF THE DETECTED MOLECULES HAD INTENSITIES GREATER THAN 50 PHOTONS.

FIG. 7

